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 <p>U.S. DEPARTMENT OF ENERGY IDAHO OPERATIONS OFFICE</p> <p>COOPERATIVE AGREEMENT</p> <p>ID FORM-182 (Rev. 05-80) Ref: CMD</p> <p>PURSUANT TO AUTHORITY OF PL 93-410, PL 93-438, PL 93-473, PL 93-577, and PL 95-91</p>	1.a. Agreement No. DE-FC07-80RA50272	1.b. Modification No.								
	2. Agreement Period From: 7-1-80 To: 7-1-82									
3. Participant Name and Address Amherst College Amherst, Massachusetts 01002	4. Participant Type <input checked="" type="checkbox"/> Educational <input type="checkbox"/> Nonprofit <input type="checkbox"/> State or Local Government <input type="checkbox"/> Profit									
5. Project Title Survey of the Geothermal Potential of New England	6. Project Will be Conducted per See Article <u>II</u>									
	7. Technical Reports Are Required See Article <u>VI</u>									
8. Principal Investigator(s) or Program Director(s) Name and Address G. P. Brophy Department of Geology Amherst College Amherst, Massachusetts 01002	9. DOE Program Officer (Name and Address) M.A. Widmayer, Energy & Technology Division U.S. Department of Energy, Idaho Operations Office, 550 Second St., Idaho Falls, ID 83401 Telephone No. 208-526-1466									
10. Accounting and Appropriation Data	11. Method of Payment <input type="checkbox"/> % At Award. <input type="checkbox"/> % When Requested. <input type="checkbox"/> 5% Upon <input type="checkbox"/> Letter of Credit <input type="checkbox"/> Receipt of Final Report <input checked="" type="checkbox"/> Reimbursement <input type="checkbox"/> Other (specify) See Article _____									
12. Submit Vouchers to Director, Contracts Management Division, U.S. Department of Energy, 550 Second St, Idaho Falls, ID 83401	14. Remarks:									
13. Funding Sources	<table border="1"> <thead> <tr> <th>Source</th> <th>Amount</th> </tr> </thead> <tbody> <tr> <td>DOE:</td> <td>\$ <u>65,422</u></td> </tr> <tr> <td>Participant:</td> <td>\$ <u>-0-</u></td> </tr> <tr> <td>Total Funding:</td> <td>\$ <u>65,422</u></td> </tr> </tbody> </table>		Source	Amount	DOE:	\$ <u>65,422</u>	Participant:	\$ <u>-0-</u>	Total Funding:	\$ <u>65,422</u>
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DOE:	\$ <u>65,422</u>									
Participant:	\$ <u>-0-</u>									
Total Funding:	\$ <u>65,422</u>									
15. Amount Obligated By This Action: \$ 65,422										
16. DOE Issuing Office (Name and Address) Idaho Operations Office 550 Second Street Idaho Falls, Idaho 83401										
17. DOE Contracting Officer <i>Nell W. Fraser</i> SEP 10 1980 Signature of Contracting Officer (Date) Name (typed) <u>Nell W. Fraser</u> Telephone No. _____	18. Participant Acceptance By <i>George B. May</i> 9/17/80 Signature of Authorized Official (Date) Name (typed) <u>George B. May</u> Title <u>Comptroller & Associate Treasurer</u>									

COOPERATIVE AGREEMENT

SCHEDULE

THIS AGREEMENT, is entered into the 22nd day of September 1980 (effective as of July 1, 1980), by and between the UNITED STATES OF AMERICA (hereinafter called the "Government"), acting through the Department of Energy (hereinafter called "DOE") with its Idaho Operations Office located at 550 Second St. in Idaho Falls, Idaho 83401, and AMHERST COLLEGE (hereinafter called the "Participant") located at Amherst, Massachusetts.

ARTICLE I - STATEMENT OF JOINT OBJECTIVE

This Cooperative Agreement is a mutual undertaking between the Participant and the Department of Energy which is authorized by Federal Statute and is intended to help the Government toward its objective of energy independence. The specific objective of the work supported by this Cooperative Agreement is to survey the geothermal potential of New England.

ARTICLE II - PROJECT MANAGEMENT PLAN

A. DOE will provide technical assistance and guidance for the program and will provide a portion of the funding for the program. The Participant is solely responsible for securing all facilities, services, and supplies in order to complete the program.

B. In addition to DOE personnel, the Participant agrees to permit non-DOE personnel who are under contract with DOE, and identified from time to time by the Contracting Officer, to assist the DOE representative in performance of his duties and to have necessary access to the Participant's and major subcontractors' facilities and records pertaining to the project. DOE correspondence, if any, with subcontractors shall be routed through the Participant.

C. Project Administration.

(1) DOE's Technical Manager on this project and the person who shall be the Participant's contact for all technical matters pertaining to this Agreement shall be the following-named person or such other person(s) as may be designated by the Contracting Officer:

M. A. Widmayer
Energy and Technology Division
Department of Energy
Idaho Operations Office
550 Second Street
Idaho Falls, Idaho 83401

ARTICLE II - PROJECT MANAGEMENT PLAN (Cont'd)

(2) The Participant's Principal Investigator for the work under this Agreement will be the following persons or such other persons as may be mutually acceptable to the parties:

Principal Investigator

G. P. Brophy
Department of Geology
Amherst College
Amherst, Massachusetts 01002

D. Technical Review

(1) Performance of the work under this Agreement shall be subject to the technical review of the Technical Manager designated in paragraph C. above. The term "Technical Review" is defined to include, but is not necessarily limited to:

(i) Provision of written information to the Participant to assist in the interpretation of technical portions of the work description; and

(ii) Review and, where required by the Agreement, approval of technical reports, drawings, specifications, and technical information to be delivered by the Participant to the Government under this Agreement.

(2) Technical Review must be within the scope of work stated in this Agreement.

E. Statement of Work - The following tasks will be performed by the Participant:

- Task 1. Conduct a literature search and field investigations to identify areas of elevated temperatures along the Connecticut River Valley. Collect water samples for analysis and for use as geothermometers in estimating subsurface temperatures.
- Task 2. Extend the investigation of hydrothermal activity to include the overthrust belt in western New England.
- Task 3. Compile an inventory of all potential hydrothermal resources in New England, based on available data.
- Task 4. Conduct area investigations of the geology and hydrology at the more promising sites to identify targets for hydrothermal development.
- Task 5. Submit all well and spring data to the USGS GEOTHERM file.

ARTICLE II - PROJECT MANAGEMENT PLAN (cont'd)

Task 6. Submit reports as required by Article VI-Project Information System.

ARTICLE III - FINANCIAL SUPPORT

A. The total estimated cost of performing the work under this Agreement is Sixty-Five Thousand Four Hundred Twenty-Two Dollars (\$65,422.00.) For performance of work under this Agreement, the agreed cost sharing is 100% DOE , 0% Participant for costs determined allowable in accordance with Article X. The total cost to DOE is hereby established as Sixty-Five Thousand Four Hundred Twenty-Two Dollars (\$65,422.00), and this amount is also the maximum amount which is subject to reimbursement by DOE unless such maximum cost is changed in writing by the Contracting Officer. The Participant will not be reimbursed by DOE for costs in excess of the maximum amount.

B. The amount of funds obligated under this Agreement by DOE is Sixty-Five Thousand Four Hundred Twenty-Two Dollars (\$65,422.00).

C. The Participant shall notify DOE in writing when 90% of this DOE obligation is reached with a description of the project status relative to the remaining funds. At the 100% level of the DOE obligated funds, the Participant shall stop all work.

ARTICLE IV - METHOD OF PAYMENT

A. Once each month, or as agreed to otherwise by the parties, the Participant shall submit an invoice to DOE supported by a statement of current costs incurred for performance of work under this Agreement and claimed to constitute allowable costs. Requests for payment should contain a cost breakdown showing the amount requested, the total amount requested to date, and the total cost of the project to date, including the value of the Participant's cost-sharing as provided for in Article III of this Agreement. The total amount paid by DOE will not exceed the amount specified in Article III.

B. Allowable costs will be determined in accordance with Article X. If any of the costs included in the invoices are determined to be unallowable in accordance with Article X, the invoice will be adjusted.

C. Five per cent of DOE payment will be retained until the Final Technical Report is received and accepted by the Contracting Officer.

ARTICLE V - TERM OF THE AGREEMENT

Work under this Agreement shall be accomplished during the period from July 1, 1980 through July 1, 1982. The period of this Agreement may be extended as mutually agreed upon by DOE and the Participant.

ARTICLE VI - PROJECT INFORMATION SYSTEM

The reporting system for the project is defined in the Reporting Requirements Checklist and the Report Distribution List attached and made a part hereof.

ARTICLE VII - CHANGES AND MODIFICATIONS

Any changes or modifications to this Agreement shall be made by mutual written agreement of the parties. A change may be initiated by either party to this Agreement. The Contracting Officer shall have the authority to determine what constitutes a change.

ARTICLE VIII - LIABILITY AND INDEMNIFICATION

The Government will not be liable for payment of damages for injuries to any person, or loss of life or personal property, or loss suffered or sustained and arising from the work which is the subject of this Agreement. The Participant agrees to indemnify and save the Government harmless from any and all claims, demands, damages, actions, costs, or charges against the Government arising as the result of the above-mentioned injuries, damages, or loss, except for any such damages or claims arising out of the negligent act of the Government or its employees in the course of their official duties.

ARTICLE IX - USE OF INFORMATION

All data and information generated, derived or obtained from the activities provided for herein, and this Agreement, will be public information subject to, but not necessarily limited to, the provisions of the General Provision entitled "Rights in Technical Data - Long Form."

ARTICLE X - ALLOWABLE COSTS

Costs shall constitute allowable costs as specified in OMB Circular A-21 as in effect on the date of this agreement's effective date.

ARTICLE XI - DATE OF INCURRENCE OF COSTS

The Participant shall be entitled to reimbursement of costs incurred in an amount not to exceed \$10,000 on or after July 1, 1980, which, would have been reimbursable under the provisions of this Agreement.

ARTICLE XII - ADDITIONAL AGREEMENT PROVISIONS

Appendix A attached hereto and made a part hereof, sets forth additional provisions of this Agreement.

Cooperative Agreement No. DE-FC07-80RA50272

APPENDIX A
GENERAL PROVISIONS

APPENDIX A - GENERAL PROVISIONS

COOPERATIVE AGREEMENT

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APPENDIX A
GENERAL PROVISIONS
COOPERATIVE AGREEMENT

1. DEFINITIONS

As used throughout this Agreement, the following terms shall have the meanings set forth below:

A. The term "head of the agency" or "Secretary" as used herein means the Secretary, the Deputy Secretary or the Under Secretary.

B. The term "Contracting Officer" means the person executing this Agreement on behalf of the Government, and includes his successor or any duly authorized representative of any such person and the term includes, except as otherwise provided in this Agreement, the authorized representative of a Contracting Officer acting within the limits of his authority.

C. Except as otherwise provided in this Agreement, the term "subcontract" includes purchase orders under this Agreement.

D. The term "DOE" means U.S. Department of Energy.

E. The term "Contractor" means "Participant".

F. The terms "Contract" and "Agreement" mean "Cooperative Agreement".

2. INSPECTION

The Government, through any authorized representatives, has the right at all reasonable times, to inspect, or otherwise evaluate the work performed or being performed hereunder and the premises in which it is being performed. If any inspection, or evaluation is made by the Government on the premises of the Participant or a subcontractor, the Participant shall provide and shall require its subcontractors to provide all reasonable facilities and assistance for the safety and convenience of the Government representatives in the performance of their duties. All inspections and evaluations shall be performed in such a manner as will not unduly delay the work.

3. ASSIGNMENT OF CLAIMS

Pursuant to the provisions of the Assignment of Claims Act of 1940, as amended (31 U.S.C. 203, 41 U.S.C. 15), claims for moneys due or to become due the Participant from the Government under this Agreement may be assigned to a bank, trust company, or other financing institution, including any Federal lending agency, and may thereafter be further assigned and reassigned to any such institution. Any such assignment or reassignment shall cover all amounts payable under this Agreement and not already paid, and shall not be made to more than one party, except that any such assignment or

3. ASSIGNMENT OF CLAIMS (Cont'd)

reassignment may be made to one party as agent or trustee for two or more parties participating in such financing. Unless otherwise provided in this Agreement, payments to assignee of any moneys due or to become due under this Agreement shall not, to the extent provided in said Act, as amended, be subject to reduction or setoff.

4. EXAMINATION OF RECORDS BY COMPTROLLER GENERAL

A. The Participant agrees that the Comptroller General of the United States or any of his duly authorized Government employees shall, until the expiration of three (3) years after final payment under this Agreement, unless DOE authorizes their prior disposition, have access to and the right to examine any directly pertinent books, documents, papers, and records of the Participant involving transactions related to this Agreement.

B. The Participant further agrees to include in all its subcontracts hereunder a provision to the effect that the subcontractor agrees that the Comptroller General of the United States or any of his duly authorized Government employees shall, until the expiration of three (3) years after final payment under the subcontract or such lesser time specified in either Appendix M of the Armed Services Procurement Regulation or the Federal Procurement Regulations Part 1-20, as appropriate, have access to and the right to examine any directly pertinent books, documents, papers, and records of such subcontractor, involving transactions related to the subcontract. The term "subcontract" as used in this clause excludes (1) purchase orders not exceeding \$10,000 and (2) subcontracts or purchase orders for public utility services at rates established for uniform applicability to the general public.

C. The periods of access and examination described in paragraphs A. and B., above, for records which relate to (1) appeals under the "Disputes" clause of this Agreement, (2) litigation or the settlement of claims arising out of the performance of this Agreement, or (3) costs and expenses of this Agreement as to which exception has been taken by the Comptroller General or any of his duly authorized representatives, shall continue until such appeals, litigation, claims or exceptions have been disposed of.

D. Nothing in this Agreement shall be deemed to preclude an audit by the General Accounting Office of any transaction under this Agreement.

5. CONVICT LABOR

In connection with the performance of work under this Agreement, the Participant agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965 [18 U.S.C. 4082(c)(2)] and Executive Order 11755, December 29, 1973.

6. OFFICIALS NOT TO BENEFIT

No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Agreement, or to any benefit that may arise therefrom; but this provision shall not be construed to extend to this Agreement if made with a corporation for its general benefit.

7. COVENANT AGAINST CONTINGENT FEES

The Participant warrants that no person or selling agency has been employed or retained to solicit or secure this Agreement upon an agreement or understanding for a commission, percentage, brokerage, or contingent fee, excepting bona fide employees or bona fide established commercial or selling agencies maintained by the Participant for the purpose of securing business. For breach or violation of this warranty the Government shall have the right to annul this Agreement without liability or in its discretion to deduct from the Agreement price or consideration, or otherwise recover, the full amount of such commission, percentage, brokerage, or contingent fee.

8. NOTICE AND ASSISTANCE REGARDING PATENT AND COPYRIGHT INFRINGEMENT

(The provisions of this clause shall be applicable only if the amount of this Agreement exceeds \$10,000.)

A. The Participant shall report to the Contracting Officer, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Agreement of which the Participant has knowledge.

B. In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this Agreement or out of the use of any supplies furnished or work or services performed hereunder, the Participant shall furnish to the Government when requested by the Contracting Officer, all evidence and information in possession of the Participant pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where the Participant has agreed to indemnify the Government.

C. This clause shall be included in all Agreements.

9. COMPETITION IN SUBCONTRACTING

The Participant shall select subcontractors (including suppliers) on a competitive basis to the maximum practicable extent consistent with the objectives and requirements of this Agreement.

10. AUDIT

A. The Participant shall maintain, and the Contracting Officer or his representative shall have the right to examine books, records, documents, and other evidence and accounting procedures and practices, sufficient to reflect properly all direct and indirect costs of whatever nature claimed to have been incurred and anticipated to be incurred for the performance of this Agreement. Such right of examination shall include inspection at all reasonable times of the Participant's plants, or such parts thereof, as may be engaged in the performance of this Agreement.

B. The materials described above, shall be made available at the office of the Participant, at all reasonable times, for inspection, audit or reproduction, until the expiration of three (3) years from the date of final payment under this Agreement or such lesser time specified in Title 41, Code of Federal Regulations Part 1-20 and for such lesser period, if any, as is required by applicable statute, or by other articles of this Agreement, or by subparagraphs B.(1) and (2) below:

(1) If this Agreement is completely or partially terminated, the records relating to the work terminated shall be made available for a period of three (3) years from the date of any resulting final settlement.

(2) Records which relate to appeals under the "Disputes" clause of this Agreement, or litigation or the settlement of claims arising out of the performance of this Agreement, shall be made available until such appeals, litigation, or claims have been disposed of.

11. CLEAN AIR AND WATER

[Applicable only if the Agreement exceeds \$100,000 or the Contracting Officer has determined that orders under an indefinite quantity Agreement in any one (1) year will exceed \$100,000 or a facility to be used has been the subject of a conviction under the Clear Air Act [42 U.S.C. 1857c-8(c)(1)] or the Federal Water Pollution Control Act [33 U.S.C. 1319(c)] and is listed by EPA, or the Agreement is not otherwise exempt.]

A. The Participant agrees as follows:

(1) To comply with all the requirements of Section 114 of the Clean Air Act, as amended (42 U.S.C. 1857, et seq., as amended by Pub. L. 91-604) and section 308 of the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq., as amended by Pub. L. 92-500), respectively, relating to inspection, monitoring, entry, reports, and information, as well as other requirements specified in Section 114 and Section 308 of the Air Act and the Water Act, respectively, and all regulations and guidelines issued thereunder before the award of this Agreement.

11. CLEAN AIR AND WATER (Cont'd)

(2) That no portion of the work required by this Agreement will be performed in a facility listed on the Environmental Protection Agency List of Violating Facilities on the date when this Agreement was awarded unless and until the EPA eliminates the name of such facility or facilities from such listing.

(3) To use its best efforts to comply with clean air standards and clean water standards at the facility in which the Agreement is being performed.

(4) To insert the substance of the provisions of this clause into any nonexempt subcontract, including this subparagraph A.(4).

B. The terms used in this clause have the following meanings:

(1) The term "Air Act" means the Clean Air Act, as amended (42 U.S.C. 1857, et seq., as amended by P. L. 91-604).

(2) The term "Water Act" means Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by P. L. 92-500).

(3) The term "clean air standards" means any enforceable rules, regulations, guidelines, standards, limitations, orders, controls, prohibitions, or other requirements which are contained in, issued under, or otherwise adopted pursuant to the Air Act or Executive Order 11738, an applicable implementation plan as described in section 110(d) of the Clean Air Act [42 U.S.C. 1857c-5(d)], an approved implementation procedure or plan under section 111(c) or section 111(d), respectively, of the Air Act [42 U.S.C. 1857(c)-6(c) or (d)], or an approved implementation procedure under section 112(d) of the Air Act [42 U.S.C. 1857c-7(d)].

(4) The term "clean water standards" means any enforceable limitation, control, condition, prohibition, standard, or other requirement which is promulgated pursuant to the Water Act or contained in a permit issued to a discharger by the Environmental Protection Agency or by a State under an approved program, as authorized by section 402 of the Water Act (33 U.S.C. 1342), or by local government to ensure compliance with pretreatment regulations as required by section 307 of the Water Act (33 U.S.C. 1317).

(5) The term "compliance" means compliance with clean air or water standards. Compliance shall also mean compliance with a schedule or plan ordered or approved by a court of competent

11. CLEAN AIR AND WATER (Cont'd)

jurisdiction, the Environmental Protection Agency or an air or water pollution control agency in accordance with the requirements of the Air Act or Water Act and regulations issued pursuant thereto.

(6) The term "facility" means any building, plant, installation, structure, mine, vessel, or other floating craft, location, or site of operations, owned, leased, or supervised by a contractor or subcontractor, to be utilized in the performance of an agreement or subcontract. Where a location or site of operations contains or includes more than one building, plant, installation, or structure, the entire location or site shall be deemed to be a facility except where the Director, Office of Federal Activities, Environmental Protection Agency, determines that independent facilities are collocated in one geographical area.

12. PREFERENCE FOR U. S. FLAG AIR CARRIERS

A. It is the policy of the United States that all Federal agencies and Government contractors and subcontractors utilize U. S. flag air carriers for international air transportation of personnel and cargo.

B. The Participant agrees to utilize U. S. flag air carriers to the maximum extent practicable in connection with the performance of this Agreement in the transportation by air of any personnel and cargo between the United States and a foreign country, or between foreign countries.

C. The terms used in this clause have the following meanings:

(1) "International air transportation" means transportation by air of personnel and cargo from the United States to a foreign country, between two or more foreign countries, and between a foreign country and the United States.

(2) "U. S. flag air carrier" means one of a class of air carriers holding a certificate of public convenience and necessity issued by the Civil Aeronautics Board, approved by the President, authorizing operations between the United States and/or its territories and one or more foreign countries.

(3) The term "United States" includes the fifty States, Commonwealth of Puerto Rico, possessions of the United States and the District of Columbia.

(4) "Practicable" includes (i) satisfactory servicing of agency programs, and (ii) timely deliveries at fair and reasonable prices.

12. PREFERENCE FOR U. S. FLAG AIR CARRIERS (Cont'd)

D. The Participant shall include the substance of this clause, including this paragraph D. in each subcontract or purchase order hereunder which may involve air transportation between the United States and a foreign country or between foreign countries.

13. USE OF U.S. FLAG COMMERCIAL VESSELS

A. The Cargo Preference Act of 1954 [Pub. L. 664, August 26, 1954, 68 Stat. 832, 46 U.S.C. 1241(b)], requires that Federal departments or agencies shall transport at least 50 percent of the gross tonnage (computed separately for day bulk carriers, dry cargo liners, and tankers) of equipment, materials, or commodities which may be transported on ocean vessels on privately owned United States flag commercial vessels. Such transportation shall be accomplished whenever:

(1) Any equipment, materials, or commodities, within or outside the United States, which may be transported by ocean vessel, are:

(i) procured, contracted for, or otherwise obtained for the agency's account; or

(ii) furnished to or for the account of any foreign nation without provision for reimbursement.

(2) Funds or credits are advanced or the convertibility of foreign currencies is guaranteed in connection with furnishing such equipment, materials, or commodities which may be transported by ocean vessel.

Note: This requirement does not apply to small purchases as defined in 41 CFR 1-3.6 or to cargoes carried in the vessels of the Panama Canal Company.

B. The Participant agrees as follows:

(1) To utilize privately owned United States flag commercial vessels to ship at least 50 percent of the gross tonnage (computed separately for dry bulk carriers, dry cargo liners, and tankers) involved whenever shipping any equipment, material, or commodities under the conditions set forth in A. above pursuant to this Agreement to the extent such vessels are available at fair and reasonable rates for United States flag commercial vessels.

Note: Guidance regarding fair and reasonable rates for United States flag vessels may be obtained from the Division of National Cargo, Office of Market Development, Maritime Administration, Washington, D.C. 20230, Area Code 202, phone 377-3449.

13. USE OF U.S. FLAG COMMERCIAL VESSELS (Cont'd)

(2) To furnish, within 15 working days following the date of loading for shipments originating within the United States or within 25 working days following the date of loading for shipments originating outside the United States, a legible copy of a rated, "on-board" commercial ocean bill of lading in English for each shipment of cargo covered by the provisions in A. above to both the Contracting Officer (through the prime Participant in the case of subcontractor bills of lading) and to the Division of National Cargo, Officer of Market Development, Maritime Administration, Washington, D.C. 20230.

(3) To insert the substance of the provisions of this clause in all contracts issued pursuant to this Agreement except for small purchases as defined in 41 CFR 1-3.6.

14. PERMITS AND LICENSES

Except as otherwise directed by the Contracting Officer, the Participant shall procure all necessary permits or licenses and abide by all applicable laws, regulations, and ordinances of the United States and of the State, territory, and political subdivision in which the work under this Agreement is performed.

15. REPORTING OF ROYALTIES

If any royalty payments are directly involved in the Agreement or are reflected in the Agreement price to the Government, the Participant agrees to report in writing to the Contracting Officer or Patent Counsel during the performance of this Agreement and prior to its completion or final settlement the amount of any royalties or other payments paid by it directly to others in connection with the performance of this Agreement together with the names and addresses of licensors to whom such payments are made and either the patent numbers involved or such other information as will permit the identification of the patents or other basis on which the royalties are to be paid. The approval of DOE of any individual payments or royalties shall not stop the Government at any time from contesting the enforceability, validity or scope of, or title to, any patent under which a royalty or payments are made.

16. ORDER OF PRECEDENCE

In the event of an inconsistency between the provisions of this Agreement, the inconsistency shall be resolved by giving precedence as follows: (a) schedule; (b) the general provisions; (c) other provisions of the Agreement, whether incorporated by reference or otherwise; and (d) Participant's technical proposal, if incorporated in the Agreement by reference or otherwise.

17. AUTHORIZATION AND CONSENT

The Government hereby gives its authorization and consent for all use and manufacture of any invention described in and covered by a patent of the United States in the performance of this Agreement or any part hereof or any amendment hereto or any contract hereunder (including any lower-tier subcontract).

18. NONDISCRIMINATION IN FEDERALLY ASSISTED PROGRAMS

The Participant agrees that no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity for which the Participant receives Federal financial assistance from DOE.

19. PATENT RIGHTS - LONG FORM

A. Definitions.

(1) "Subject Invention" means any invention or discovery of the Participant conceived or first actually reduced to practice in the course of or under this Agreement, and includes any art, method, process, machine, manufacture, design, or composition of matter, or any new and useful improvement thereof, or any variety of plants, whether patented or unpatented under the Patent Laws of the United States of America or any foreign country.

(2) "Contract" means any contract, grant, agreement, understanding or other arrangement, which includes research, development, or demonstration work, and includes any assignment or substitution of parties.

(3) "States and domestic municipal governments" means the States of the United States, the District of Columbia, Puerto Rico, the Virgin Islands, American Samoa, Guam, the Trust Territory of the Pacific Islands, and any political subdivision and agencies thereof.

(4) "Government agency" includes an executive department, independent commission, board, office, agency, administration, authority, Government corporation, or other Government establishment of the Executive Branch of the Government of the United States of America.

(5) "To the point of practical application" means to manufacture in the case of a composition or product, to practice in the case of a process, or to operate in the case of a machine and under such conditions as to establish that the invention is being worked and that its benefits are reasonably accessible to the public.

19. PATENT RIGHTS - LONG FORM (Cont'd)

(6) "Patent Counsel" means the DOE Patent Counsel assisting the procuring activity.

B. Allocation of Principal Rights.

(1) Assignment to the Government. The Participant agrees to assign to the Government the entire right, title, and interest throughout the world in and to each Subject Invention except to the extent that rights are retained by the Participant under subparagraph B.(2) and paragraph C. of this clause.

(2) Greater Rights Determinations. The Participant or the employee-inventor with authorization of the Participant may request greater rights than the nonexclusive license and the foreign patent rights provided in paragraph C. of this clause on identified inventions, in accordance with 41 CFR 9-9.109-6. Such requests must be submitted to Patent Counsel (with notification by Patent Counsel to the Contracting Officer) at the time of the first disclosure pursuant to subparagraph E.(2) of this clause, or not later than nine (9) months after conception or first actual reduction to practice, whichever occurs first, or such longer period as may be authorized by Patent Counsel (with notification by Patent Counsel to the Contracting Officer) for good cause shown in writing by the Participant.

C. Minimum Rights to the Participant.

(1) Participant License. The Participant reserves a revocable, nonexclusive, paid-up license in each patent application filed in any country on a Subject Invention and any resulting patent in which the Government acquires title. The license shall extend to the Participant's domestic subsidiaries and affiliates, if any, within the corporate structure of which the Participant is a part and shall include the right to grant sublicenses of the same scope to the extent the Participant was legally obligated to do so at the time the Agreement was awarded. The license shall be transferable only with approval of DOE except when transferred to the successor of that part of the Participant's business to which the invention pertains.

(2) Revocation Limitations. The Participant's nonexclusive license retained pursuant to subparagraph C.(1) of this clause and sublicenses granted thereunder may be revoked or modified by DOE, either in whole or in part, only to the extent necessary to achieve expeditious practical application of the Subject Invention under DOE's published licensing regulations (10 CFR 781), and only to the extent an exclusive license is actually

19. PATENT RIGHTS - LONG FORM (Cont'd)

granted. This license shall not be revoked in that field of use and/or the geographical areas in which the Participant, or its sublicensee, has brought the invention to the point of practical application and continues to make the benefits of the invention reasonably accessible to the public, or is expected to do so within a reasonable time.

(3) Revocation Procedures. Before modification or revocation of the license or sublicense, pursuant to subparagraph C.(2) of this clause, DOE shall furnish the Participant a written notice of its intention to modify or revoke the license and any sublicense thereunder, and the Participant shall be allowed thirty (30) days, or such longer period as may be authorized by the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) for good cause shown in writing by the Participant, after such notice to show cause why the license or any sublicense should not be modified or revoked. The Participant shall have the right to appeal, in accordance with 10 CFR 781, any decision concerning the modification or revocation of its license or any sublicense.

(4) Foreign Patent Rights. Upon written request to Patent Counsel (with notification by Patent Counsel to the Contracting Officer), in accordance with subparagraph E.(2)(i) of this clause, and subject to DOE security regulations and requirements, there shall be reserved to the Participant, or the employee-inventor with authorization of the Participant, the patent rights to a Subject Invention in any foreign country where the Government has elected not to secure such rights provided:

(i) The recipient of such rights, when specifically requested by DOE and three (3) years after issuance of a foreign patent disclosing said Subject Invention, shall furnish DOE a report setting forth:

(A) The commercial use that is being made, or is intended to be made, of said invention, and

(B) The steps taken to bring the invention to the point of practical application or to make the invention available for licensing.

(ii) The Government shall retain at least an irrevocable, nonexclusive, paid-up license to make, use, and sell the invention throughout the world by or on behalf

19. PATENT RIGHTS - LONG FORM (Cont'd)

of the Government (including any Government agency) and States and domestic municipal governments, unless the Secretary or his designee determines that it would not be in the public interest to acquire the license for the States and domestic municipal governments.

(iii) Subject to the rights granted in subparagraphs C.(1), (2), and (3) of this clause, the Secretary or his designee shall have the right to terminate the foreign patent rights granted in this subparagraph C.(4) in whole or in part unless the recipient of such rights demonstrates to the satisfaction of the Secretary or his designee that effective steps necessary to accomplish substantial utilization of the invention have been taken or within a reasonable time will be taken.

(iv) Subject to the rights granted in subparagraphs C.(1), (2), and (3) of this clause, the Secretary or his designee shall have the right, commencing four (4) years after foreign patent rights are accorded under this subparagraph C.(4), to require the granting of a nonexclusive or partially exclusive license to a responsible applicant or applicants, upon terms reasonable under the circumstances and in appropriate circumstances to terminate said foreign patent rights in whole or in part, following a hearing upon notice thereof to the public, upon a petition by an interested person justifying such hearing:

(A) If the Secretary or his designee determines, upon review of such material as he deems relevant, and after the recipient of such rights, or other interested person, has had the opportunity to provide such relevant and material information as the Secretary or his designee may require, that such foreign patent rights have tended substantially to lessen competition or to result in undue market concentration in any section of the United States in any line of commerce to which the technology relates; or

(B) Unless the recipient of such rights demonstrates to the satisfaction of the Secretary or his designee at such hearing that the recipient has taken effective steps, or within a reasonable time thereafter is expected to take

19. PATENT RIGHTS - LONG FORM (Cont'd)

such steps, necessary to accomplish substantial utilization of the invention.

D. Filing of Patent Applications.

(1) With respect to each Subject Invention in which the Participant or the inventor requests foreign patent rights in accordance with subparagraph C.(4) of this clause, a request may also be made for the right to file and prosecute the U.S. application on behalf of the U.S. Government. If such request is granted, the Participant or inventor shall file a domestic patent application on the invention within six (6) months after the request for foreign patent rights is granted, or such longer period of time as may be approved by the Patent Counsel for good cause shown in writing by the requester. With respect to the invention, the requester shall promptly notify the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) of any decision not to file an application.

(2) For each Subject Invention on which a domestic patent application is filed by the Participant or inventor, the Participant or inventor shall:

(i) Within two (2) months after the filing or within two (2) months after submission of the invention disclosure if the patent application previously has been filed, deliver to the Patent Counsel a copy of the application as filed including the filing date and serial number;

(ii) Within six (6) months after filing the application or within six (6) months after submitting the invention disclosure if the application has been filed previously, deliver to the Patent Counsel a duly executed and approved assignment to the Government, on a form specified by the Government;

(iii) Provide the Patent Counsel with the original patent grant promptly after a patent is issued on the application; and

(iv) Not less than thirty (30) days before the expiration of the response period for any action required by the Patent and Trademark Office, notify the Patent Counsel of any decision not to continue prosecution of the application.

19. PATENT RIGHTS - LONG FORM (Cont'd)

(3) With respect to each Subject Invention in which the Participant or inventor has requested foreign patent rights, the Participant or inventor shall file a patent application on the invention in each foreign country in which such request is granted in accordance with applicable statutes and regulations and within one of the following periods:

(i) Eight (8) months from the date of filing a corresponding United States application, or if such an application is not filed, six (6) months from the date the request was granted;

(ii) Six (6) months from the date a license is granted by the Commissioner of Patents and Trademarks to file the foreign patent application where such filing has been prohibited by security reasons; or

(iii) Such longer periods as may be approved by the Patent Counsel for good cause shown in writing by the Participant or inventor.

(4) Subject to the license specified in subparagraphs C.(1), (2) and (3) of this clause, the Participant or inventor agrees to convey to the Government, upon request, the entire right, title, and interest in any foreign country in which the Participant or inventor fails to have a patent application filed in accordance with subparagraph D.(3) of this clause, or decides not to continue prosecution or to pay any maintenance fees covering the invention. To avoid forfeiture of the patent application or patent the Participant or inventor shall, not less than sixty (60) days before the expiration period for any action required by any Patent Office, notify the Patent Counsel of such failure or decision, and deliver to the Patent Counsel the executed instruments necessary for the conveyance specified in this paragraph.

E. Invention Identification, Disclosures, and Reports.

(1) The Participant shall establish and maintain active and effective procedures to ensure that Subject Inventions are promptly identified and timely disclosed. These procedures shall include the maintenance of laboratory notebooks or equivalent records and any other records that are reasonably necessary to document the conception and/or the first actual reduction to practice of Subject Inventions, and records which show that the procedures for identifying and disclosing the inventions are followed. Upon request, the Participant shall furnish the

19. PATENT RIGHTS - LONG FORM (Cont'd)

Contracting Officer a description of these procedures so that he may evaluate and determine their effectiveness.

(2) The Participant shall furnish the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) on a DOE-approved form:

(i) A written report containing full and complete technical information concerning each Subject Invention within six (6) months after conception or first actual reduction to practice whichever occurs first in the course of or under this Agreement, but in any event prior to any on sale, public use or public disclosure of such invention known to the Participant. The report shall identify the Agreement and inventor and shall be sufficiently complete in technical detail and appropriately illustrated by sketch or diagram to convey to one skilled in the art to which the invention pertains a clear understanding of the nature, purpose, operation, and to the extent known, the physical, chemical, biological, or electrical characteristics of the invention. The report should also include any request for foreign patent rights under subparagraph C.(4) of this clause and any request to file a domestic patent application under subparagraph D.(1) of this clause. However, such requests shall be made within the period set forth in subparagraph B.(2) of this clause. When an invention is reported under this subparagraph E.(2)(i), it shall be presumed to have been made in the manner specified in Section 9(a)(1) and (2) of 42 U.S.C. 5908 unless the Participant contends it was not so made in accordance with subparagraph G.(2)(ii) of this clause.

(ii) Upon request, but not more than annually, interim reports on a DOE-approved form listing Subject Inventions and subcontracts awarded containing a Patent Rights clause for that period and certifying that:

(A) The Participant's procedures for identifying and disclosing Subject Inventions as required by this paragraph E. have been followed throughout the reporting period;

(B) All Subject Inventions have been disclosed or that there are no such inventions; and

19. PATENT RIGHTS - LONG FORM (Cont'd)

(C) All subcontracts containing a Patent Rights clause have been reported or that no such subcontracts have been awarded.

(iii) A final report on a DOE-approved form within three (3) months after completion of the Agreement work listing all Subject Inventions and all subcontracts awarded containing a Patent Rights clause and certifying that:

(A) All Subject Inventions have been disclosed or that there were no such inventions; and

(B) All subcontracts containing a Patent Rights clause have been reported or that no such subcontracts have been awarded.

(3) The Participant shall obtain patent agreements to effectuate the provisions of this article from all persons in its employ who perform any part of the work under this Agreement except nontechnical personnel, such as clerical employees and manual laborers.

(4) The Participant agrees that the Government may duplicate and disclose Subject Invention disclosures and all other reports and papers furnished or required to be furnished pursuant to this clause. If the Participant is to file a foreign patent application on a Subject Invention, the Government agrees, upon written request, to use its best efforts to withhold publication of such invention disclosures until the expiration of the time period specified in subparagraph D.(1) of this clause, but in no event shall the Government or its employees be liable for any publication thereof.

F. Publication. It is recognized that during the course of the work under this Agreement, the Participant or its employees may from time to time desire to release or publish information regarding scientific or technical developments conceived or first actually reduced to practice in the course of or under this Agreement. In order that public disclosure of such information will not adversely affect the patent interests of DOE or the Participant, patent approval for release or publication shall be secured from Patent Counsel prior to any such release or publication.

G. Forfeiture of Rights in Unreported Subject Inventions.

(1) The Participant shall forfeit to the Government, at the request of the Secretary or his designee, all rights in any

19. PATENT RIGHTS - LONG FORM (Cont'd)

Subject Invention which the Participant fails to report to Patent Counsel (with notification by Patent Counsel to the Contracting Officer) within six (6) months after the time the Participant:

(i) Files or causes to be filed a United States or foreign patent application thereon; or

(ii) Submits the final report required by subparagraph E.(2)(iii) of this clause, whichever is later.

(2) However, the Participant shall not forfeit rights in a Subject Invention if, within the time specified in (1)(i) or (1)(ii) of this paragraph G., the Participant:

(i) Prepares a written decision based upon a review of the record that the invention was neither conceived nor first actually reduced to practice in the course of or under the Agreement and delivers the same to Patent Counsel (with notification by Patent Counsel to the Contracting Officer); or

(ii) Contending that the invention is not a Subject Invention the Participant nevertheless discloses the invention and all facts pertinent to this contention to the Patent Counsel (with notification by Patent Counsel to the Contracting Officer); or

(iii) Establishes that the failure to disclose did not result from the Participant's fault or negligence.

(3) Pending written assignment of the patent applications and patents on a Subject Invention determined by the Secretary or his designee to be forfeited (such determination to be a final decision under the "Disputes" clause of this Agreement), the Participant shall be deemed to hold the invention and the patent applications and patents pertaining thereto in trust for the Government. The forfeiture provision of this paragraph G. shall be in addition to and shall not supersede other rights and remedies which the Government may have with respect to Subject Inventions.

H. Examination of Records Relating to Inventions.

(1) The Contracting Officer or his authorized representative, until the expiration of three (3) years after final payment under this Agreement, shall have the right to examine any books (including laboratory notebooks), records, documents, and other supporting data

19. PATENT RIGHTS - LONG FORM (Cont'd)

of the Participant which the Contracting Officer or his authorized representative reasonably deems pertinent to the discovery or identification of Subject Inventions or to determine compliance with the requirements of this clause.

(2) The Contracting Officer or his authorized representative shall have the right to examine all books (including laboratory notebooks), records and documents of the Participant relating to the conception of first actual reduction to practice of inventions in the same field of technology as the work under this Agreement to determine whether any such inventions are Subject Inventions, if the Participant refuses or fails to:

(i) Establish the procedures of subparagraph E.(1) of this clause; or

(ii) Maintain and follow such procedures; or

(iii) Correct or eliminate any material deficiency in the procedures within thirty (30) days after the Contracting Officer notifies the Participant of such a deficiency.

I. Withholding of Payment (Not Applicable to Subcontracts).

(1) Any time before final payment of the amount of this Agreement, the Contracting Officer may, if he deems such action warranted, withhold payment until a reserve not exceeding \$50,000 or 5 percent of the amount of this Agreement, whichever is less, shall have been set aside if in his opinion the Participant fails to:

(i) Establish, maintain and follow effective procedures for identifying and disclosing Subject Inventions pursuant to subparagraph E.(1) of this clause; or

(ii) Disclose any Subject Invention pursuant to subparagraph E.(2)(i) of this clause; or

(iii) Deliver the interim reports pursuant to subparagraph E.(2)(ii) of this clause; or

(iv) Provide the information regarding subcontracts pursuant to subparagraph J.(5) of this clause; or

(v) Convey to the Government in a DOE-approved form the title and/or rights of the Government in each Subject Invention as required by this clause.

19. PATENT RIGHTS - LONG FORM (Cont'd)

(2) The reserve or balance shall be withheld until the Contracting Officer has determined that the Participant has rectified whatever deficiencies exist and has delivered all reports, disclosures, and other information required by the clause.

(3) Final payment under this Agreement shall not be made by the Contracting Officer before the Participant delivers to Patent Counsel all disclosures of Subject Inventions and other information required by subparagraph E.(2)(i) of this clause, the final report required by subparagraph E.(2)(iii) of this clause, and Patent Counsel has issued a patent clearance certification to the Contracting Officer.

(4) The Contracting Officer may, in his discretion, decrease or increase the sums withheld up to the maximum authorized above. If the Participant is a nonprofit organization, the maximum amount that may be withheld under this paragraph shall not exceed \$50,000 or 1 percent of the amount of this Agreement, whichever is less. No amount shall be withheld under this paragraph while the amount specified by this paragraph is being withheld under other provisions of the Agreement. The withholding of any amount or subsequent payment thereof shall not be construed as a waiver of any rights accruing to the Government under this Agreement.

J. Subcontracts.

(1) For the purpose of this paragraph the term "Participant" means the party awarding a subcontract and the term "subcontractor" means the party being awarded a subcontract, regardless of tier.

(2) Unless otherwise authorized or directed by the Contracting Officer, the Participant shall include the Patent Rights clause of 41 CFR 9-9.107-5(a) or 41 CFR 9-9.107-6 as appropriate, modified to identify the parties in any subcontract hereunder having as a purpose the conduct of research, development, or demonstration work. In the event of refusal by a subcontractor to accept this clause, or if in the opinion of the Participant this clause is inconsistent with DOE's patent policies, the Participant:

(i) Shall promptly submit written notice to the Contracting Officer setting forth reasons for the subcontractor's refusal and other pertinent information which may expedite disposition of the matter; and

(ii) Shall not proceed with the subcontract without the written authorization of the Contracting Officer.

19. PATENT RIGHTS - LONG FORM (Cont'd)

(3) Except as may be otherwise provided in this clause, the Participant shall not, in any subcontract or by using a subcontract as consideration therefor, acquire any rights in its subcontractor's Subject Invention for the Participant's own use (as distinguished from such rights as may be required solely to fulfill the Participant's Agreement obligations to the Government in the performance of this Agreement).

(4) All invention disclosures, reports, instruments, and other information required to be furnished by the subcontractor to DOE, under the provisions of a Patent Rights clause in any subcontract hereunder may, in the discretion of the Contracting Officer, be furnished to the Participant for transmission to DOE.

(5) The Participant shall promptly notify the Contracting Officer in writing upon the award of any subcontract containing a Patent Rights clause by identifying the subcontractor, the work to be performed under the subcontract, and the dates of award, and estimated completion. Upon the request of the Contracting Officer the Participant shall furnish him a copy of the subcontract.

(6) The Participant shall identify all Subject Inventions of the subcontractor of which it acquires knowledge in the performance of this Agreement and shall notify the Patent Counsel (with notification by Patent Counsel to the Contracting Officer) promptly upon the identification of the inventions.

(7) It is understood that the Government is a third party beneficiary of any subcontract article granting rights to the Government in Subject Inventions, and the Participant hereby assigns to the Government all rights that the Participant would have to enforce the subcontractor's obligations for the benefit of the Government with respect to Subject Inventions. The Participant shall not be obligated to enforce the agreements of any subcontractor hereunder relating to the obligations of the subcontractor to the Government regarding Subject Inventions.

K. Background Patents.

(1) "Background Patent" means a domestic patent covering an invention or discovery which is not a Subject Invention and which is owned or controlled by the Participant at any time through the completion of this Agreement:

19. PATENT RIGHTS - LONG FORM (Cont'd)

(i) Which the Participant, but not the Government, has the right to license to others without obligation to pay royalties thereon; and

(ii) Infringement of which cannot reasonably be avoided upon the practice of any specific process, method, machine, manufacture or composition of matter (including relatively minor modifications thereof) which is a subject of the research, development, or demonstration work performed under this Agreement.

(2) The Participant agrees to and does hereby grant to the Government a royalty-free, nonexclusive, license under any Background Patent for purposes of practicing a subject of this Agreement by or for the Government in research, development, and demonstration work only.

(3) The Participant also agrees that upon written application by DOE, it will grant to responsible parties for purposes of practicing a subject of this Agreement, nonexclusive licenses under any Background Patent on terms that are reasonable under the circumstances. If, however, the Participant believes that exclusive or partially exclusive rights are necessary to achieve expeditious commercial development or utilization, then a request may be made to DOE for DOE approval of such licensing by the Participant.

(4) Notwithstanding the foregoing subparagraph K.(3), the Participant shall not be obligated to license any Background Patent if the Participant demonstrates to the satisfaction of the Secretary or his designee that:

(i) A competitive alternative to the subject matter covered by said Background Patent is commercially available or readily introducible from one or more other sources; or

(ii) The Participant or its licensees are supplying the subject matter covered by said Background Patent in sufficient quantity and at reasonable prices to satisfy market needs, or have taken effective steps or within a reasonable time are expected to take effective steps to so supply the subject matter.

L. Atomic Energy.

(1) No claim for pecuniary award or compensation under the provisions of the Atomic Energy Act of 1954, as amended, shall be

19. PATENT RIGHTS - LONG FORM (Cont'd)

asserted by the Participant or its employees with respect to any invention or discovery made or conceived in the course of or under this Agreement.

(2) Except as otherwise authorized in writing by the Contracting Officer, the Participant will obtain patent agreements to effectuate the provisions of subparagraph L.(1) of this clause from all persons who perform any part of the work under this Agreement, except nontechnical personnel, such as clerical employees and manual laborers.

M. Limitation of Rights. Nothing contained in this Patent Rights clause shall be deemed to give the Government any rights with respect to any invention other than a Subject Invention except as set forth in the Patent Rights clause of this Agreement with respect to Background Patents and the Facilities License.

20. ADDITIONAL TECHNICAL DATA REQUIREMENTS

A. In addition to the technical data specified elsewhere in this Agreement to be delivered, the Contracting Officer may at any time during the Agreement performance or within one (1) year after final payment call for the Participant to deliver any technical data first produced or specifically used in the performance of this Agreement except technical data pertaining to items of standard commercial design.

B. The provisions of the "Rights in Technical Data" clause included in this Agreement are applicable to all technical data called for under this Additional Technical Data Requirements clause. Accordingly, nothing contained in this clause shall require the Participant to actually deliver any technical data, the delivery of which is excused by paragraph E. of the "Rights in Technical Data" clause.

C. When technical data are to be delivered under this clause, the Participant will be compensated for appropriate costs for converting such data into the prescribed form, for reproduction, and for delivery.

21. RIGHTS IN TECHNICAL DATA - LONG FORM

A. Definitions.

(1) "Technical Data" means recorded information regardless of form or characteristic, of a scientific or technical nature. It may, for example, document research, experimental, developmental, or demonstration, or engineering work, or be usable or used to define a design or process, or to procure, produce, support, maintain, or operate materiel. The data may be graphic or

21. RIGHTS IN TECHNICAL DATA - LONG FORM (Cont'd)

pictorial delineations in media such as drawings or photographs, text in specifications or related performance or design type documents or computer software (including computer programs, computer software data bases, and computer software documentation). Examples of technical data include research and engineering data, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identification, and related information. Technical data as used herein does not include financial reports, cost analyses, and other information incidental to Agreement administration.

(2) "Proprietary Data" means technical data which embody trade secrets developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications thereof, provided that such data:

(i) Are not generally known or available from other sources without obligation concerning their confidentiality;

(ii) Have not been made available by the owner to others without obligation concerning its confidentiality; and

(iii) Are not already available to the Government without obligation concerning their confidentiality.

(3) "Contract Data" means technical data first produced in the performance of the Agreement, technical data which are specified to be delivered in the Agreement, technical data that may be called for under the "Additional Technical Data Requirements" clause of the Agreement, if any, or technical data actually delivered in connection with the Agreement.

(4) "Unlimited Rights" means rights to use, duplicate, or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

B. Allocation of Rights.

(1) The Government shall have:

(i) Unlimited rights in contract data except as otherwise provided below with respect to proprietary data.

21. RIGHTS IN TECHNICAL DATA - LONG FORM (Cont'd)

(ii) The right to remove, cancel, correct or ignore any marking not authorized by the terms of this Agreement on any technical data furnished hereunder, if in response to a written inquiry by DOE concerning the propriety of the markings, the Participant fails to respond thereto within sixty (60) days or fails to substantiate the propriety of the markings. In either case DOE will notify the Participant of the action taken.

(iii) No rights under this Agreement in any technical data which are not contract data.

(2) The Participant shall have:

(i) The right to withhold proprietary data in accordance with the provisions of this clause.

(ii) The right to use for its private purposes, subject to patent, security or other provisions of this Agreement, contract data it first produces in the performance of this Agreement provided the data requirements of this Agreement have been met as of the date of the private use of such data. The Participant agrees that to the extent it receives or is given access to proprietary data or other technical, business or financial data in the form of recorded information from DOE or a DOE contractor or subcontractor, the Participant shall treat such data in accordance with any restrictive legend contained thereon, unless use is specifically authorized by prior written approval of the Contracting Officer.

(3) Nothing contained in this "Rights in Technical Data" clause shall imply a license to the Government under any patent or be construed as affecting the scope of any licenses or other rights otherwise granted to the Government under any patent.

C. Copyrighted Material.

(1) The Participant shall not, without prior written authorization of the Contracting Officer, establish a claim to statutory copyright in any contract data first produced in the performance of the Agreement. To the extent such authorization is granted, the Government reserves for itself and others acting on its behalf a royalty-free, nonexclusive, irrevocable, worldwide license for Governmental purposes to publish, distribute,

21. RIGHTS IN TECHNICAL DATA - LONG FORM (Cont'd)

translate, duplicate, exhibit and perform any such data copyrighted by the Participant.

(2) The Participant agrees not to include in the technical data delivered under the Agreement any material copyrighted by the Participant and not to knowingly include any material copyrighted by others without first granting or obtaining at no cost a license therein for the benefit of the Government of the same scope as set forth in subparagraph C.(1) above. If such royalty-free license is unavailable and the Participant nevertheless determines that such copyrighted material must be included in the technical data to be delivered, rather than merely incorporated therein by reference, the Participant shall request the written authorization of the Contracting Officer to include such copyrighted material in the technical data without a license.

D. Subcontracting. It is the responsibility of the Participant to obtain from its contractors technical data and rights therein, on behalf of the Government, necessary to fulfill the Participant's obligations to the Government with respect to such data. In the event of refusal by a subcontractor to accept a clause affording the Government such rights, the Participant shall:

(1) Promptly submit written notice to the Contracting Officer setting forth reasons for the subcontractor's refusal and other pertinent information which may expedite disposition of the matter; and

(2) Not proceed with the contract without the written authorization of the Contracting Officer.

E. Withholding of Proprietary Data. Notwithstanding the inclusion of the "Additional Technical Data Requirements" clause in this Agreement or any provision of this Agreement specifying the delivery of technical data, the Participant may withhold proprietary data from delivery, provided that the Participant furnishes in lieu of any such proprietary data, so withheld technical data disclosing the source, size, configuration, mating and attachment characteristics, functional characteristics and performance requirements ("Form, Fit and Function" data, e.g., specification control drawings, catalog sheets, envelope drawings, etc.) or a general description of such proprietary data where "Form, Fit and Function" data are not applicable. The Government shall acquire no rights to any proprietary data so withheld except that such data shall be subject to the "Inspection Rights" provisions of paragraph F., and if included, the "Limited Rights in Proprietary Data" provisions of paragraph G. and the "Participant Licensing" provisions of paragraph H.

21. RIGHTS IN TECHNICAL DATA - LONG FORM (Cont'd)

F. Inspection Rights. Except as may be otherwise specified in this Agreement for specific items of proprietary data which are not subject to this paragraph, the Contracting Officer's representatives, at all reasonable times up to three (3) years after final payment under this Agreement, may inspect at the Participant's facility any proprietary data withheld under paragraph E. for the purposes of verifying that such data properly fell within the withholding provision of paragraph E., or for evaluating work performance.

22. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION

[This Agreement, to the extent that it is of a character specified in the Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333), is subject to the following provisions and to all other applicable provisions and exceptions of such Act and the regulations of the Secretary of Labor thereunder.]

A. Overtime Requirements. The Participant or contractor contracting for any part of the Agreement work, which may require or involve the employment of laborers, mechanics, apprentices, trainees, watchmen, and guards, shall require or permit any laborer, mechanic, apprentice, trainee, watchman, or guard, in any workweek in which he is employed on such work, to work in excess of eight (8) hours in any calendar day, or in excess of forty (40) hours in such workweek, on work subject to the provisions of the Contract Work Hours and Safety Standards Act, unless such laborer, mechanic, apprentice, trainee, watchman, or guard receives compensation at a rate not less than one and one-half times his basic rate of pay for all such hours worked in excess of eight (8) hours in any calendar day, or in excess of forty (40) hours in such workweek, whichever is the greater number of overtime hours.

B. Violation; Liability for Unpaid Wages; Liquidated Damages. In the event of any violation of the provisions of paragraph A., the Participant and any contractor responsible therefor shall be liable to any affected employee for his unpaid wages. In addition, such Participant and contractor shall be liable to the United States for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, apprentice, trainee, watchman, or guard employed in violation of the provisions of paragraph A. in the sum of \$10 for each calendar day on which such employee was required or permitted to be employed on such work in excess of eight (8) hours or in excess of his standard workweek of forty (40) hours without payment of the overtime wages required by paragraph A.

C. Withholding for Unpaid Wages and Liquidated Damages. The Contracting Officer may withhold from the Government Prime Participant, from any moneys payable on account of work performed by the Participant or contractor, such sums as may administratively be determined to be necessary to satisfy any liabilities of such Participant or contractor for unpaid wages and liquidated damages as provided in the provisions of paragraph B.

22. CONTRACT WORK HOURS AND SAFETY STANDARDS ACT - OVERTIME COMPENSATION (Cont'd)

D. Contracts. The Participant shall insert paragraphs A. through D. of this clause in all contracts, and shall require their inclusion in all subcontracts of any tier.

E. Records. The Participant shall maintain payroll records containing the information specified in 29 CFR 516.2(a). Such records shall be preserved for three (3) years from the completion of the Agreement.

23. FLOOD INSURANCE

The Participant shall comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1976, Section 102(a) requires, on and after March 2, 1975, the Purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Secretary of the Department of Housing and Urban Development as an area having special flood hazards and provisions prescribed by the Federal Insurance Administration in 24 CFR Chapter X, Subchapter B., will be complied with.

24. SUBCONTRACTS

A. All subcontracts and purchase orders in excess of \$10,000 shall require prior written approval of the Contracting Officer.

25. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

A. The performance of work under this Agreement may be terminated, in whole or from time to time in part, by the Government whenever for any reason the Contracting Officer shall determine that such termination is in the best interest of the Government. Termination of work hereunder shall be effected by delivery to the Participant of a Notice of Termination specifying the extent to which performance of work under the Agreement is terminated and the date upon which such termination becomes effective.

B. After receipt of the Notice of Termination, the Participant shall cancel its outstanding commitments hereunder covering the procurement of materials, supplies, equipment, and miscellaneous items. In addition, the Participant shall exercise all reasonable diligence to accomplish the cancellation or diversion of its outstanding commitments covering personal services and extending beyond the date of such termination to the extent that they relate to the performance of any work terminated by the notice. With respect to such canceled commitments, the Participant agrees to (1) settle all outstanding liabilities and all claims arising out of such cancellation of commitments, with the approval or ratification of the Contracting Officer, to the extent he may require, which approval or ratification shall be final for all purposes of this article; and (2)

25. TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (Cont'd)

assign to the Government, in the manner, at the time, and to the extent directed by the Contracting Officer, all of the right, title, and interest of the Participant under the orders and contracts so terminated, in which case the Government shall have the right, in its discretion, to settle or pay any or all claims arising out of the termination of such orders and contracts.

C. The Participant shall submit its termination claim to the Contracting Officer promptly after receipt of a Notice of Termination, but in no event later than one year from the effective date thereof, unless one or more extensions in writing are granted by the Contracting Officer upon written request of the Participant within such one-year period or authorized extension thereof. Upon failure of the Participant to submit its termination claim within the time allowed, the Contracting Officer may, subject to any review required by the contracting agency's procedures in effect as of the date of execution of this contract, determine, on the basis of information available to him, the amount, if any, due to the Participant by reason of the termination and shall thereupon pay to the Participant the amount so determined.

D. Any determination of costs under paragraph C. shall be governed by the contract cost principles and procedures in Subpart 1-15.3 of the Federal Procurement Regulations (41 CFR 1-15.3) in effect on the date of this Agreement.

E. Subject to the provisions of paragraph C. above, and subject to any review required by the contracting agency's procedures in effect as of the date of execution of this Agreement, the Participant and the Contracting Officer may agree upon the whole or any part of the amount or amounts to be paid to the Participant by reason of the termination under this article, which amount or amounts may include any reasonable Termination for Convenience of the Government cancellation charges thereby incurred by the Participant and any reasonable loss upon outstanding commitments for personal services which it is unable to cancel; Provided, however, that in connection with any outstanding commitments for personal services which the Participant is unable to cancel, the Participant shall have exercised reasonable diligence to divert such commitments to its other activities and operations. Any such agreement shall be embodied in an amendment to this Agreement and the Participant shall be paid the agreed amount.

F. The Government may from time to time, under such terms and conditions as it may prescribe, make partial payments against costs incurred by the Participant in connection with the terminated portion of this contract, whenever, in the opinion of the Contracting Officer, the aggregate of such payments is within the amount to which the Participant will be entitled hereunder. If the total of such payments is in excess of the amount finally agreed or determined to be due under this article, such excess shall be payable by the Participant to the Government upon demand; Provided, That if such excess is not so paid upon demand, interest thereon shall be payable by the Participant to the Government at the rate established by the Secretary of the Treasury pursuant to Public Law 92-41 [50 U.S.C. App. 1215(b)(2)] for the Renegotiation Board, beginning 30 days from the date of such demand.

G. The Participant agrees to transfer title to the Government and deliver in the manner, at the times, and to the extent, if any, directed by the Contracting Officer, such information and items which, if the Agreement had been completed, would have been required to be furnished to the Government, including:

(1) Completed or partially completed plans, drawings, and information; and

(2) Materials or equipment produced or in process or acquired in connection with the performance of the work terminated by the notice.

Other than the above, any termination inventory resulting from the termination of the contract may, with the written approval of the Contracting Officer, be sold or acquired by the Participant under the conditions prescribed by and at a price or prices approved by the Contracting Officer. The proceeds of any such disposition shall be applied in reduction of any payments to be made by the Government to the Participant under this Agreement or shall otherwise be credited to the price or cost of work covered by this Agreement or paid in such other manner as the Contracting Officer may direct. Pending final disposition of property arising from the termination, the Participant agrees to take such action as may be necessary, or as the Contracting Officer may direct, for the protection and preservation of the property related to this Agreement which is in the possession of the Participant and in which the Government has or may acquire an interest.

H. Any dispute as to questions of fact which may arise hereunder shall be subject to the "Disputes" article of this Agreement.

26. DISPUTES

A. Except as otherwise provided in this Agreement, any dispute concerning a question of fact arising under this Agreement which is not disposed of by Agreement shall be decided by the Contracting Officer, who shall reduce his decision to writing and mail, or otherwise furnish a copy thereof to the Participant. The decision of the Contracting Officer shall be final and conclusive unless within 60 days from date of receipt of such copy, the Participant mails, or delivers a written notice of appeal to the Department of Energy Financial Assistance Appeals Board in accordance with 10 CFR Part 1024 (See Rule 1). The decision of the Department of Energy Financial Assistance Appeals Board shall be final and conclusive unless determined by a court of competent jurisdiction to have been fraudulent, or capricious, or arbitrary, or so grossly erroneous as necessary to imply bad faith, or not supported by substantial evidence. In connection with any appeal proceeding under this clause, the Participant shall be afforded an opportunity to be heard and to offer evidence in support of its appeal. Pending final decision of a dispute hereunder, the Participant shall proceed diligently with the performance of the Agreement and in accordance with the Contracting Officer's decision.

B. This "Disputes Clause" does not preclude consideration of law questions in connection with decisions provided for in paragraph A. above; provided, that nothing in this Agreement shall be construed as making final the decision of any administrative official, representative, or board, based on a question of law.

27. UTILIZATION OF LABOR SURPLUS AREA CONCERNS

(The following clause is applicable if this Agreement exceeds \$10,000.00)

A. It is the policy of the Government to award contracts to labor surplus area concerns that agree to perform substantially in labor surplus areas, where this can be done consistent with the efficient performance of the Agreement and at prices no higher than are obtainable elsewhere. The Participant agrees to use its best efforts to place its subcontracts in accordance with this policy.

B. In complying with paragraph A. of this clause and with paragraph B. of the clause of this Agreement entitled "Utilization of Small Business Concerns Owned and Controlled by Socially and Economically Disadvantaged Individuals," the Participant in placing its subcontracts shall observe the following order of preference: (1) Small business concerns that are labor surplus area concerns, (2) other small business concerns, and (3) other labor surplus area concerns.

C. (1) The term "labor surplus area" means a geographical area identified by the Department of Labor as an area of concentrated unemployment or underemployment or an area of labor surplus.

(2) The term "labor surplus area concern" means a concern that together with its first-tier subcontractors will perform substantially in labor surplus areas.

(3) The term "perform substantially in a labor surplus area" means that the costs incurred on account of manufacturing, production, or appropriate services in labor surplus areas exceed 50 percent of the Agreement price.

28. DISCRIMINATION AGAINST HANDICAPPED PROHIBITED

The Participant agrees that no otherwise qualified handicapped individual in the United States shall, solely by reason of his handicap, be excluded from the participation in, be denied the benefits of, or be subjected to discrimination under any program or activity receiving Federal financial assistance.

29. SEX DISCRIMINATION PROHIBITED

No person shall on the ground of sex be excluded from participation in, be denied a license under, be denied the benefits of, or be subjected to discrimination under any program or activity carried on or receiving Federal assistance under any title of this Act (P. L. 93-438).

30. PUBLIC INFORMATION RELEASES

The parties agree that public disclosure or dissemination of new data or information arising out of this program will be coordinated by the parties, it being understood that the intent of both the Participant and DOE is to release all data and information to the greatest practicable extent in order to achieve the objective of obtaining maximum public value from the results of this program. It is understood that the foregoing is not intended to afford either party the right to prevent a public release by the other; however, nothing in this provision shall impair the rights of the parties set forth elsewhere in this Agreement.

31. UTILIZATION OF SMALL BUSINESS CONCERNS AND SMALL BUSINESS CONCERNS OWNED AND CONTROLLED BY SOCIALLY AND ECONOMICALLY DISADVANTAGED INDIVIDUALS

A. It is the policy of the United States and the Department of Energy that small business concerns and small business concerns owned and controlled by socially and economically disadvantaged individuals shall have the maximum practicable opportunity to participate in the performance of contracts let by DOE.

B. The Participant hereby agrees to carry out this policy in the awarding of subcontracts to the fullest extent consistent with the efficient performance of this Agreement. The Participant further agrees to cooperate in any studies or surveys as may be conducted by the United States Small Business Administration or the Department of Energy as may be necessary to determine the extent of the Contractor's compliance with this clause.

C. As used in this Agreement, the term "small business concern" shall mean a small business as defined pursuant to Section 3 of the Small Business Act (15 U.S.C. 632) and relevant regulations promulgated pursuant thereto. The term "small business concern owned and controlled by socially and economically disadvantaged individuals" shall mean a business concern:

(1) Which is at least 51 per centum owned by one or more socially and economically disadvantaged individuals; or in the case of any publicly-owned business at least 51 per centum of the stock of which is owned by one or more socially and economically disadvantaged individuals; and

(2) Whose management and daily business operations are controlled by one or more of such individuals.

The Participant shall presume that socially and economically disadvantaged individuals include Black Americans, Hispanic Americans, Native Americans, Asian-Pacific Americans, and other minorities, or any other individual found to be disadvantaged by the Small Business Administration pursuant to Section 8(a) of the Small Business Act.

D. Contractors acting in good faith may rely on written representations by their subcontractors regarding their status as either a small business concern or a small business concern owned and controlled by socially and economically disadvantaged individuals.

32. UTILIZATION OF WOMEN-OWNED BUSINESS CONCERNS

A. It is the policy of the United States Government that women-owned businesses shall have the maximum practicable opportunity to participate in the performance of contracts awarded by any Federal agency.

B. The Participant agrees to use its best efforts to carry out this policy in the award of subcontracts to the fullest extent consistent with the efficient performance of this Agreement. As used in this Agreement, a "woman-owned business" concern means a business that is at least 51% owned by a woman or women who also control and operate it. "Control" in this context means exercising the power to make policy decisions. "Operate" in this context means being actively involved in the day-to-day management. "Women" mean all women business owners.

U. S. DEPARTMENT OF ENERGY
REPORTING REQUIREMENTS CHECKLIST

DOE Form CR-537
 (1-78)

(See Instructions on Reverse)

FORM APPROVED
 OMB NO. 38R-0190

1. IDENTIFICATION DE-FC07-80RA50272	2. OBLIGATION INSTRUMENT:
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3. REPORTING REQUIREMENTS

A. PROJECT MANAGEMENT	Frequency	B. TECHNICAL INFORMATION REPORTING	Frequency
1. <input type="checkbox"/> Management Plan		1. <input type="checkbox"/> Notice of Energy RD&D Project (SSIE)	
2. <input type="checkbox"/> Milestone Schedule & Status Report		2. <input checked="" type="checkbox"/> Technical Progress Report	M
3. <input type="checkbox"/> Cost Plan		3. <input checked="" type="checkbox"/> Topical Report	Y
4. <input type="checkbox"/> Manpower Plan		4. <input checked="" type="checkbox"/> Final Technical Report	Y
5. <input checked="" type="checkbox"/> Contract Management Summary Report	M	C. PMS/MINI-PMS 1. Cost Performance Report <input type="checkbox"/> Format 1 WBS <input type="checkbox"/> Format 2 Functional <input type="checkbox"/> Format 3 Baseline <input type="checkbox"/> Format 5 Problem Analysis 2. <input type="checkbox"/> Cost/Schedule Status Report 3. <input type="checkbox"/> Management Control System Description 4. <input type="checkbox"/> Summary System Description 5. <input type="checkbox"/> WBS Dictionary	
6. <input checked="" type="checkbox"/> Project Status Report	M		
7. <input type="checkbox"/> Cost Management Report			
8. <input type="checkbox"/> Manpower Management Report			
9. <input type="checkbox"/> Conference Record			
10. <input type="checkbox"/> Hot Line Report			

FREQUENCY CODES:

A - As Required	Q - Quarterly
C - Contract Change	S - Semi-Annually
F - Final (End of Contract)	X - Mandatory for Delivery with Proposals/Bid
M - Monthly	Y - Yearly or Upon Contract Renewal
O - One Time (Soon After Contract Award)	

4. SPECIAL INSTRUCTIONS

A.5. and A.6. - Copies are due within fifteen days after end of the calendar month.

B.2. - Copies are due within fifteen days after end of the calendar month.

B.3. - Submit 2 copies in draft forty-five days prior to completion of the yearly term. After DOE approval is received, submit copies as required on attached "Report Distribution List."

B.4. - Submit 2 copies in draft forty-five days prior to completion date of contract term. After DOE approval is received, submit eleven copies including one camera-ready copy.

5. ATTACHED HEREWITH:

<input checked="" type="checkbox"/> Report Distribution List <input type="checkbox"/> WBS/Reporting Category	<input type="checkbox"/> <input type="checkbox"/>
---	--

6. PREPARED BY (Signature and date): <i>Margaret A. Widmayer 6/2/80</i>	7. REVIEWED BY (Signature and date):
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REPORTING REQUIREMENTS CHECKLIST

PURPOSE

A checklist to identify and communicate additional reporting requirements which are not otherwise set forth in the General Purpose clauses of DOE contracts and agreements. It will be included as part of the contract or agreement. This form will be completed for each proposed contract or agreement and can be modified as required in Special Instructions to adapt it to a specific situation.

INSTRUCTIONS

Item 1 - Enter the title as indicated in the Procurement Request, Interagency Agreement, or initiating memorandum.

Item 2 - Enter the identification number of the Procurement Request or Interagency Agreement, the date of the memorandum, and contract number after award.

Item 3 - Check spaces to indicate plans and reports required. For each reporting requirement checked, indicate frequency of delivery in column provided using one of the frequency codes shown.

- 3.A.1 *Management Plan* - The contractor's plan to manage the effort described in the statement of work or similar document. It will contain management methodologies, control systems, and procedures he will use. Includes milestones and other planning schedules, organizational identification and descriptions, and special and critical plans, such as test plans, plans for handling of Government owned property. Work breakdown structures, key personnel identification, and methods for monitoring progress toward objectives may be required.
- 3.A.2 *Milestone Schedule and Status Report* - The contractor's milestone schedule for all work breakdown structure items, line items, or deliverables specified in the contract. Updated periodically (usually monthly) with status, progress toward completion, and percent completion of each line item and of the total contract.
- 3.A.3 *Cost Plan* - A baseline plan for incurring costs on a contract or agreement to measure progress in terms of cost; update and forecast contract fund requirements; plan funding changes; and develop fund requirements and budget estimates.
- 3.A.4 *Manpower Plan* - A baseline plan to allocate manpower to each reporting category identified in the contract or agreement.
- 3.A.5 *Contract Management Summary Report* - A single-page graphic presentation of integrated cost, major milestones, and manpower for rapid visual analysis and trend forecasting.
- 3.A.6 *Project Status Report* - A periodic report to communicate to DOE management an assessment of contract status, to explain variances and problems, and to discuss any other areas of concern or achievements.
- 3.A.7 *Cost Management Report* - A periodic report of the status of costs compared to the Cost Plan. Data is used to: report actual and projected accrued costs; evaluate performance against plan; identify actual and potential problem areas; construct cost experience for projects and budgeting efforts; and, to verify the reasonableness of contractors' invoices.
- 3.A.8 *Manpower Management Report* - A periodic report of the status of actual and projected manpower expenditure against the Manpower Plan. Data is used to evaluate performance against plan; identify actual and potential problem areas; and to construct manpower experience for projections and planning efforts.
- 3.A.9 *Conference Record* - Documentation of the contractor's understanding of significant decisions, direction or redirection or required actions resulting from any meeting with DOE representatives.
- 3.A.10 *Hot Line Report* - A hardcopy report by the fastest means available, (TWX, etc) documenting critical problems, emergency situations, and important technical breakthroughs.

3.B.1 *Notice of Energy R&D Project* - A formatted, two-page report to provide information on unclassified DOE R&D projects for dissemination to the scientific, technical, and industrial communities and to the public. Also provides information to the Smithsonian Scientific Information Exchange.

3.B.2 *Technical Progress Report* - A formal, structured technical report, submitted periodically to communicate project results for dissemination to Government agencies, the scientific, technical and industrial communities and the public.

3.B.3 *Topical Report* - A special technical report prepared when a project has reached a point at which a major milestone or a significant phase has been completed, when unexpected results have been achieved, when it is logical to summarize results achieved, or when a new scientific or technological finding is deemed to warrant prompt publication.

3.B.4 *Final Technical Report* - Technical Progress Report reporting final results of DOE supported R&D and scientific projects.

3.C PMS/Mini-PMS

1) *Cost Performance Report (PMS Application)*

Format 1 - Reports current period and cumulative budget, actual costs and earned value data by work breakdown structure elements. Identifies cost and schedule variances and provides contractor's estimate to complete comparisons to budgets.

Format 2 - Reports current period and cumulative budget, actual costs, and earned value data by contractor functional elements.

Format 3 - Provides periodic updating to the established performance measurement baseline. Incorporates authorized contract changes and internal re-planning into the performance measurement baseline.

Format 5 - Provides a narrative analysis of contract variances.

2) *Cost/Schedule Report (Mini-PMS Application)* - Periodic, usually monthly, report of cumulative budget, actual costs and earned value by summary work breakdown structure elements. Identifies cost and schedule variances and provides contractor's estimate to complete comparisons to budgets.

3) *System Description (PMS Application)* - Contractor's description of the management control system to be used in performing contract work. Must address all elements of the PMS criteria.

4) *Summary System Description (Mini-PMS Application)* - Contractor's summarized description of the management control system to be used in performing contract work.

5) *WBS Dictionary* - Lists and defines work breakdown structure. For more detailed instructions see PMS Manual.

Frequency Codes - Each code must have an identified time period (i.e., As Required - 5 days after event occurrence). These time periods are suggested in the solicitation and negotiated at contract award.

Item 4 - Identify any special reporting requirements not indicated in Item 3 and/or qualifiers to those selected. (Use additional sheets as necessary.)

Item 5 - Check appropriate blocks.

Report Distribution List - A comprehensive informative listing of reports by frequency of submission, addresses and number of copies for each addressee.

Reporting Categories (level of detail) - An identification by WBS level of task elements for which reporting will be required by DOE.

Item 6 - Signature of person or persons preparing the checklist and the date prepared. Preparation is by person or persons responsible for preparation of Procurement Request or Statement of Work.

Item 7 - Signature of the person reviewing the checklist and date reviewed.



ID F-129 (Rev. 08-79)
 Ref. DOE 13302
 (use with DOE CR-537)

U.S. DEPARTMENT OF ENERGY
 IDAHO OPERATIONS OFFICE
 REPORT DISTRIBUTION LIST

Contract No.	Report Distribution List														
	Milestone Schedule & Status Report Management Plan	Contract Management & Status Report	Manpower Management Summary Report	Cost Management Summary Report	Project Status Report	Manpower Management Report	Cost Management Report	Notice of Energy RD&D Project	Conference Record	Hot Line Report	Technical Progress Report	Final Technical Report	Cost/Schedule Status Report	Summary System Description	WBS Dictionary
Addressees	Number of Report Copies														
M. A. Widmayer, Program Manager Resource Definition Branch U.S.D.O.E. Idaho Operations Office 550 Second Street Idaho Falls, ID 83401								2	2				2	2	12
Bob Gray U.S.D.O.E. Division of Geothermal Energy MS 3344 Federal Building 12th and Penn., N.W. Washington, D.C. 20461								2	2				2	2	
Duncan Foley UURI 420 Chipeta Way Suite 120 Salt Lake City, UT 84108								1	1				1	1	
Special Instructions															

UNIFORM DOE CONTRACTOR SCIENTIFIC, TECHNICAL AND ENGINEERING REPORT NUMBERING SYSTEM

Effective with the implementation of the Procurement/Contract numbering system as shown in the example below, the following guidelines are established for identifying scientific and technical reports (progress, interim, final topical, etc.) conference papers, proceedings, theses, and translations.

1. All DOE contractors now applying uniquely identifying codes and systems approved by TIC are to continue using such codes and systems.
2. DOE Field Office codes such as ALO, IDO, COO, HCP, NVO, ORO, RLO, SAN, and SRO; and program codes such as FE, DSE, etc., are no longer approved for use by contractors.
3. Contractors having no approved unique codes are to number information products as shown below. All contractors in this category should create unique report numbers by (a) identifying the report with a DOE code, (b) selecting the final seven characters from the applicable contract number (two alphabetic and five numerals), and (c) adding suffix numbers sequentially for each report generated under the contract. For new contracts, the sequential number should begin with 1. For existing contracts the established sequence should continue. Slash marks and hyphens should be applied as shown in the examples.

Examples: Report numbers generated from contract number DE-AC03-79ET01834.M001:

DOE/ET/01834-1; DOE/ET/01834-2; DOE/ET/01834-3; etc.

Note: It is essential that both the final five-digit numeral and the two preceding alphabetical characters be extracted from the contract number as shown. The modification number, if any, normally shown as M001, etc., following the basic five-digit number is NOT used in the report number.

4. Reports issued in more than one binding, or reissued as revisions or later editions, are to be identified by adding the following additional suffixes to the basic number: Rev. - Revision; Vol. - Volume; Pt. - part; Add. - Addenda; Ed. - Edition, etc.

Examples: DOE/ET-01834-1 Rev.
DOE/ET/01834-1 Rev. 2

DOE/ET-01834-1 Pt. 1
DOE/ET/01834-1 Pt. 2

It is intended that report numbers be structured exactly as specified in the examples insofar as possible. If modification to this basic format is essential, it is to be approved through normal channels before being used.

Under the authority of Public Law 93-410, 93-438, 93-473, 93-577, 95-91 and subject to legislation, regulations and policies applicable to (cite legislative program title):

National Geothermal Resource Assessment Program

1. PROJECT TITLE Survey of the Geothermal Potential of New England		2. INSTRUMENT TYPE <input type="checkbox"/> GRANT <input checked="" type="checkbox"/> COOPERATIVE AGREEMENT	
3. RECIPIENT (Name, address, zip code, area code and telephone no.) Amherst College Amherst, Massachusetts 01002		4. INSTRUMENT NO. DE-FC07-80RA50272	5. AMENDMENT NO. 0001
8. RECIPIENT PROJECT DIRECTOR (Name and telephone No.) Gerald P. Brophy (413) 542-2233		6. BUDGET PERIOD FROM: 7/1/80 THRU: 1/1/83	7. PROJECT PERIOD FROM: 7/1/80 THRU: 1/1/83
9. RECIPIENT BUSINESS OFFICER (Name and telephone No.) George B. May		10. TYPE OF AWARD <input type="checkbox"/> NEW <input checked="" type="checkbox"/> CONTINUATION <input type="checkbox"/> RENEWAL <input type="checkbox"/> REVISION <input type="checkbox"/> SUPPLEMENT	
11. DOE PROJECT OFFICER (Name, address, zip code, telephone No.) Susan M. Prestwich (208) 526-1147 DOE-Idaho Operations Office 550 Second St., Idaho Falls, ID 83401		12. ADMINISTERED FOR DOE BY (Name, address, zip code, telephone No.) E.M. Hyster, Contracts Management Division DOE-Idaho Operations Office 550 Second Street Idaho Falls, Idaho 83401 (208) 526-1229	

13. RECIPIENT TYPE
 STATE GOV'T INDIAN TRIBAL GOV'T HOSPITAL FOR PROFIT ORGANIZATION INDIVIDUAL
 LOCAL GOV'T INSTITUTION OF HIGHER EDUCATION OTHER NONPROFIT ORGANIZATION OTHER (Specify)

14. ACCOUNTING AND APPROPRIATIONS DATA				15. EMPLOYER ID NUMBER/SSN
a. Appropriation Symbol	b. B & R Number	c. FT/AFP/OC	d. CFA Number	
n/a				

16. BUDGET AND FUNDING INFORMATION		b. CUMULATIVE DOE OBLIGATIONS	
a. CURRENT BUDGET PERIOD INFORMATION		(1) This Budget Period	
(1) DOE Funds Obligated This Action	\$ -0-	[Total of lines a. (1) and a. (3)]	
(2) DOE Funds Authorized for Carry Over	\$ -0-	(2) Prior Budget Periods	
(3) DOE Funds Previously Obligated in this Budget Period	\$ 65,422.00	\$ -0-	
(4) DOE Share of Total Approved Budget	\$ 65,422.00	(3) Project Period to Date	
(5) Recipient Share of Total Approved Budget	\$ -0-	[Total of lines b. (1) and b. (2)]	
(6) Total Approved Budget	\$ 65,422.00	\$ 65,422.00	

17. TOTAL ESTIMATED COST OF PROJECT \$ 65,422.00
(This is the current estimated cost of the project. It is not a promise to award nor an authorization to expend funds in this amount.)

18. AWARD AGREEMENT TERMS AND CONDITIONS
This award agreement consists of this form plus the following:
a. Special terms and conditions (if grant) or schedule, general provisions, special provisions (if cooperative agreement)
b. Applicable program regulations (specify) National Geothermal Resource Assessment Program (Date) n/a
DOE Assistance Regulations, 10 CFR Part 600, as amended, Subparts A and B (Grants) or C (Cooperative Agreements)
c. Application/proposal dated 12/7/81 as submitted with changes as negotiated

19. REMARKS
This amendment extends the Agreement from 7/1/82 to 1/1/83 with no change in the financial support of the project.

20. EVIDENCE OF RECIPIENT ACCEPTANCE Signature of Authorized Recipient Official: <u>George B. May</u> (Date) <u>3/15/82</u> George B. May (Name) Treasurer (Title)	21. AWARDED BY Signature: <u>William G. [unclear]</u> (Date) _____ William G. [unclear] (Name) Contracting Officer (Title)
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UNIVERSITY OF UTAH RESEARCH INSTITUTE

UURI

EARTH SCIENCE LABORATORY
420 CHIPETA WAY, SUITE 120
SALT LAKE CITY, UTAH 84108
TELEPHONE 801-581-5283

April 14, 1982

Dr. Gerry Brophy
Department of Geology
Amherst College
Amherst, MA 01002

Re: Completion Date and Deliverables: DOE Contract DE-FC07-79ET27034

Dear Gerry:

I am sorry you were not able to attend the Roundup Technical Conference in Salt Lake. The meeting went very well and the papers presented were generally excellent. Earth Science Laboratories will be publishing the proceedings and if you have a paper ready that you would like to publish, I would be pleased to include it in the proceedings. At any rate, I am asking all of the state teams to submit an up-dated bibliography of all geothermal RA publications which have been generated as a result of DOE contract work throughout the course of the program. I have asked that camera ready copies of papers and bibliographies be sent to my attention by April 30, 1982. My goal is to have proceedings edited and published by July 1, 1982.

During the course of the conference, contract reviews were conducted by Susan Prestwich and the state teams, with special emphasis on the status of various deliverables as stipulated in each contract. To assist in this review, I prepared summaries of each contract, listing modifications, tasks, deliverables (where such were specifically delineated) and contract completion dates. When I could find copies of reports, etc. in E.S.L. files, I indicated this on the summaries. I made no attempt to ascertain if monthly and quarterly reports had been issued as required by most contracts.

You will find enclosed a copy of the summary I prepared for your contract with notations of some deliverables that have been received and are on file at ESL. Please review this summary and let us know of any errors or omissions. Also, please indicate when you expect to finish each task and publish reports corresponding to the tasks or specific deliverables. This work is necessary so that DOE-Idaho can accurately close out each contract and assure adherence to contract requirements. If any tasks, time extensions or deliverables have been changed by verbal or letter agreements, not covered in formal modifications, it will be important for you to provide details of such changes to Susan Prestwich or me as soon as possible.

I note in your contract a termination date of July 1, 1982. If all work and deliverables will not be completed by that date, it will be advisable for you to formally request a time extension by contacting Ms. Prestwich.

Please do not hesitate to call me on (801) 581-5414 if you have any questions.

Best regards,

Carl A. Ruscetta
Technical Program Coordinator

encl.
cc. S. Prestwich
Idaho Falls, ID.